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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,694	03/18/2004	Sanjay Gurbasappa Charati	135140-2	7808

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EXAMINER

BOYKIN, TERRESSA M

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,694

Applicant(s)

CHARATI ET AL.

Examiner

Terressa M. Boykin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 13, 14, 17, 19-24, 33-36 and 38-62 is/are rejected.
- 7) ☒ Claim(s) 5, 6 - 9, 10, 11, 12, 15, 16, 18, 25-32, 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/13/04 (12)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

1. Applicant's arguments filed 10-4-04 have been fully considered but they are not deemed to be persuasive.

Applicants' argue that although **USPub 20030216502** teaches a composite of single wall carbon nanotubes and a polar polymer, the reference does not teach blending a polymer precursor with a single wall carbon nanotube composition and further polymerizing the polymer precursor to form an organic polymer. However, the reference does teach the mixing of single-wall carbon nanotubes with at least one polar polymer produces a uniform distribution of single-wall carbon nanotubes in the polymer or polymer blend. In the examples, the reference teaches that single-wall nanotubes are dispersed initially in one or more polar polymers, and the resulting mixture is subsequently blended with one or more nonpolar polymers. Note that the nanotube-polymer composite comprises single-wall carbon nanotubes and at least one polar polymer. As noted previously, the nanotube-polymer composite comprises single-wall carbon nanotubes, one or more polar polymers and one or more non-polar polymers. Such non-polar polymers include, but are not limited to, polyolefin polymers, polyethylenes, polypropylenes, polyisobutylenes, polybutenes, polystyrenes, polyisobutylenes, polybutenes, copolymers thereof and combinations thereof which would include blends. The reference then states that single-wall carbon nanotubes do not disperse well in non-polar polymers, however, polar polymers can blend well with non-polar polymers which inherently may be organic as noted above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 13-14, 17, 19-24, 33-36, 38-40, 41-62 are rejected under 35 U.S.C. 102(e) as being anticipated by **USPub 20030216502 McElrath et al.**

USPub 20030216502 discloses a composite comprising a weight fraction of single-wall carbon nanotubes and at least one polar polymer wherein the composite has an electrical conductivity of at least about 35 S/cm multiplied by the weight fraction of the nanotubes in the composite. The composite of claim 1 wherein the polar polymer is selected from the group consisting of polycarbonate, poly(acrylic acid), poly(methacrylic acid), polyoxide, polysulfide, polysulfone, polyamide, polyester, polyurethane, polyimide, poly(vinyl acetate), poly(vinyl alcohol), poly(vinyl chloride), poly(vinyl pyridine), poly(vinyl pyrrolidone), copolymers thereof, and combinations thereof. (Note applicants' claims 14, 17 regarding polyimide, polyamide etc.).

The reference further discloses a method for forming a composite comprising a

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weight fraction of single-wall carbon nanotubes and at least one polar polymer comprising: a) dispersing a weight fraction of single-wall carbon nanotubes and at least one polar polymer in a solvent to make a nanotube-polymer suspension; and b) removing the solvent from the suspension to form a nanotube-polymer composite wherein the polymer composite has an electrical conductivity of at least about 35 S/cm multiplied by the weight fraction of the nanotubes in the composite.

Thus in view of the above, there appears to be no significant difference between the references and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Objected Claims

Claims 5, 6 - 9, 10, 11, 12, 15, 16, 18, 25 - 32, 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

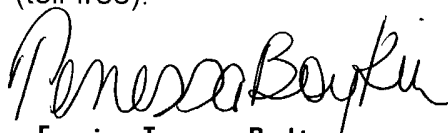
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is (571-272-1700).

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

A handwritten signature in black ink, appearing to read "Terressa Boykin", is positioned above the printed name.

Examiner Terressa Boykin
Primary Examiner
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